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Volatile Organic Compound Emission Inventory for Tennessee Eastman Company

TRW Environmental Engineering Div, Durham, NC

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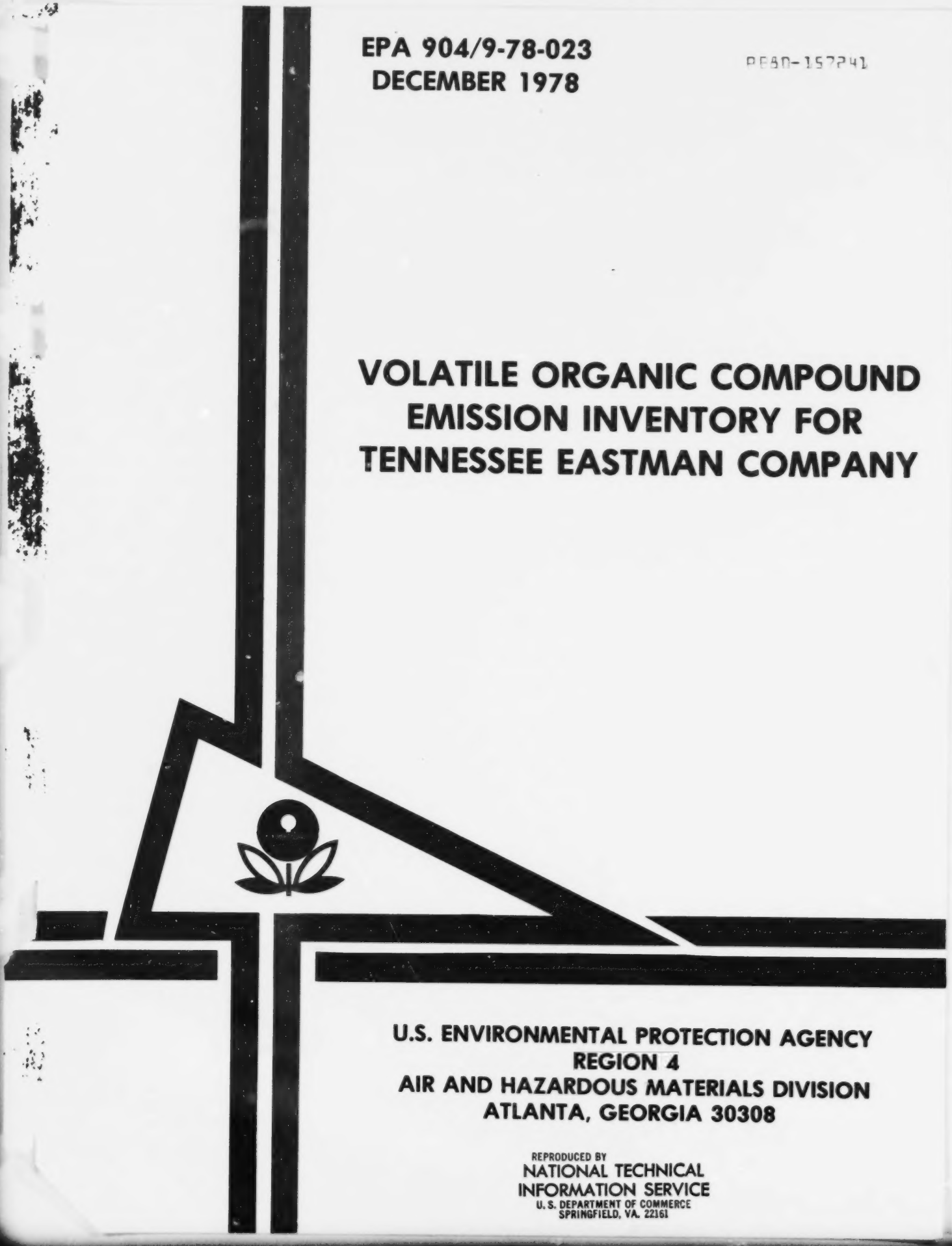
VOLATILE ORGANIC COMPOUND EMISSION INVENTORY FOR TENNESSEE EASTMAN COMPANY



U.S. ENVIRONMENTAL PROTECTION AGENCY
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VOLATILE ORGANIC COMPOUND EMISSION INVENTORY FOR TENNESSEE EASTMAN COMPANY

by

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Contract No. 68-02-2541
Task No. 3

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TABLE OF CONTENTS

Acknowledgement iii

1. Introduction 1-1

2. Background 2-1

References for Section 2 2-2

3. Methodology 3-1

References for Section 3 3-4

4. Results 4-1

Appendix A VOC Emission Sources A-1

Appendix B Pilot Plant and Laboratory emissions B-1

Appendix C Compound Specific Emissions C-1

SECTION 1

INTRODUCTION

An emission inventory of volatile organic compounds (VOC) has been compiled for the Tennessee Eastman Company complex in Kingsport, Tennessee. This facility is located in an area which is not attaining the National Ambient Air Quality Standard for photochemical oxidants and has therefore been designated a non-attainment area by the Environmental Protection Agency. Under the requirements of the 1977 Clean Air Act Amendments a revised State Implementation Plan (SIP) is required for all such areas and must contain a current emission inventory. The SIP must be submitted to the EPA no later than January 1, 1979 and must be approved by July 1, 1979. This emission inventory is designed to aid the Air Pollution Control Division of the State of Tennessee in the preparation of the required implementation plan.

SECTION 2

BACKGROUND

Under the mandate of the 1970 Clean Air Act, the U. S. Environmental Protection Agency (EPA) promulgated primary and secondary National Ambient Air Quality Standards (NAAQS) for six criteria air pollutants.[1] Each state and territory was then required to submit to the Administrator of the EPA a plan for implementation, maintenance and enforcement of the air quality standards for each air quality control region (AQCR) within the state. Also included in the plans were attainment dates for the air quality standards in each AQCR. In those states that did not meet their attainment date a revised State Implementation Plan (SIP) was required which demonstrated attainment of the standards. The Clean Air Act Ammendments of 1977 retain the fundamental approach to air pollution control and also retain the SIP as the mechanism for instituting this approach. Under the 1977 amendments, each state is required to submit to the EPA Administrator a list of air quality control regions which have attained the standard, those which have not, and those for which there are insufficient data for classification.

For the air quality control regions not attaining the standards, the respective states must submit a revised SIP by January 1, 1979 which demonstrates attainment of the standards as soon as possible but not later than December 31, 1982. For photochemical oxidants an extension to 1987 is available if the state demonstrates that attainment by 1982 is not possible utilizing reasonably available control technology. The 1977 Amendments specify that the revised SIP include a comprehensive, accurate, and current inventory of actual emissions from all sources. Toward satisfying this requirment, an inventory of volatile organic compound (VOC) emissions has been compiled for the Tennessee Eastman Company in Kingsport, Tennessee.

REFERENCES

1. Clean Air Act, 42 U.S.C. 7401 et. seg., as amended by the Air Quality Act of 1967; Clean Air Amendments of 1970, PL 91-604; Clean Air Act Amendments of 1977, PL 95-95, August 7, 1977.

SECTION 3

METHODOLOGY

This section describes the general approach and methodology that was utilized in compiling the volatile organic compound emission inventory for the Tennessee Eastman Company Plant.

3.1 GENERAL APPROACH

The data presented in this document are the result of the collection and analysis of information dealing with the operation of known sources of VOC emissions within the Tennessee Eastman Company complex. The study was conducted in two phases, the first being a review of current permit applications and the second being a plant survey.

3.2 PERMIT REVIEW

All current permit applications submitted by Tennessee Eastman were reviewed at the Office of the Tennessee Air Pollution Control Division. Emissions were recorded for each permit unit which corresponds to each building number within the plant. Emissions of only those compounds which are photochemically reactive were recorded. In order to distinguish reactive from non-reactive substances the EPA guidelines, as published in the Federal Register of July 8, 1977 were followed.[1] The compounds listed in table 3-1 were not included in the inventory and are therefore exempt from regulation. The compounds listed in Table 3-2 are of low photochemical reactivity but do contribute to oxidant formation during periods of multiday stagnations. They are, therefore, included in the inventory.

TABLE 3-1 VOLATILE ORGANIC COMPOUNDS EXEMPT FROM REGULATION UNDER STATE IMPLEMENTATION PLANS

METHANE
ETHANE
1, 1, 1 - TRICHLOROETHANE (METHYL CHLOROFORM)
TRICHLOROTRIFLUOROETHANE (FREON 113)

TABLE 3-2 VOLATILE ORGANIC COMPOUNDS OF LOW REACTIVITY

PROPANE	TERTIARY ALKYL ALCOHOLS
ACETONE	METHYL ACETATE
METHYL ETHYL KETONE	PHENYL ACETATE
METHANOL	ETHYL AMINES
ISOPROPANOL	ACETYLENE
METHYL BENZOATE	N, N-DIMETHYL FORMAMIDE

All permits were reviewed with the following information recorded:

PERMIT NUMBER
BUILDING NUMBER
PROCESS DESCRIPTION
SOURCES WITHIN EACH BUILDING
EMISSION RATES (TONS/YEAR)
POLLUTANT(S)
TYPE OF CONTROL EQUIPMENT
CONTROL EFFICIENCY

The information was then placed in order by building numbers and emissions were rounded to the nearest tenth of a ton. All points with emissions of less than 0.05 tons/year were considered negligible and were not reported.

3.3 PLANT SURVEY

The second phase of the study involved a visit to the plant itself. The purpose of this was to verify the accuracy of all of the data collected from the permit applications. Specific areas of interest include:

(1) Verification that all sources were covered by permits.
(2) Partial operation of any sources during 1977.
(3) Method of measurement or estimation of emissions.
(4) Method of measurement or estimation of control equipment efficiencies.

Meetings were held with representatives of each plant area within the Tennessee Eastman Complex. The meetings were followed by a tour of each section of the facility with the appropriate representatives. Within each area several representative sources were studied in depth in order to determine the validity of the data reported in the permit applications. TRW personnel were not granted entry into the VEREL Polymer section of the plant. This included buildings 102 and 194. The method of emission estimation for these buildings was discussed with the plant area representatives.

For instances where the data were obtained by measurement, the method of sample collection and analysis was investigated for applicability and accuracy. For cases where the emissions were estimated, the method of estimation was investigated for accuracy. This procedure was also carried out to determine the validity of reported control equipment efficiencies.

The results of both phases of this study are presented in the following section with a detailed listing in Appendix A. In Appendix C is a listing, by compound, for those compounds emitted in excess of 50 tons per year.

3.4 LABORATORY AND PILOT PLANT FACILITIES

A listing of laboratory and pilot plant facilities by building number was obtained from the Tennessee Eastman Company. These buildings were then checked in the permit files of the Tennessee Division of Air Pollution Control and the reported emissions were recorded. These emissions are listed in Appendix B. Tennessee Eastman Company is in the process of reviewing and updating the emission estimates from all laboratories and pilot plants. The method of estimation for each building is the material balance method as previously described.

REFERENCES

1. "Recommended Policy on Control of Volatile Organic Compounds," Federal Register, Vol. 42, No. 131, July 8, 1977. pp. 35314-35316.

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16. ABSTRACT

This document is an emission inventory of volatile organic compounds (VOC) for the Tennessee Eastman Company complex in Kingsport, Tennessee. A listing of emissions, VOC compound, and level of control is listed for each emission source based on data in the State's permit files and plant inspection.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
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SECTION 4

RESULTS

A listing of emissions from each source within the Tennessee Eastman Complex is presented in Appendix A. The total emissions for the plant are 12,390.5 tons per year for 1977. This figure and the listing in Appendix A include all sources within the Tennessee Eastman Plant which were in operation during 1977. All figures are based on a 100% production rate for the entire year. Meetings with plant area representatives revealed that all operations within the plant operated at virtually full capacity during 1977. Any less than full capacity operations were not reported in the permit applications therefore the reported figures may be slightly higher than actual. No new operation came on line during 1977 for which there was no permit application on file with the State of Tennessee.

Less than half of the sources within the plant have been tested for VOC emissions. The procedure consists of sample collection in an evacuated chamber for subsequent laboratory analysis. Analysis is usually carried out using gas chromatography. In the case of acetic acid emissions, however, analysis is performed by a pH titration with standardized NaOH. In many cases the stack flow is measured continuously. In other cases it is measured at the same time the gas sample is collected.

Measurements to determine control equipment efficiencies are made in a similar manner with samples being collected at the inlet and outlet of the unit. This type of process is used to determine the efficiencies of all carbon adsorbers in the plant.

For sources where there were no physical measurements made, emissions were estimated by material balance calculations. The quantity of raw materials used is, of course, known as is the quantity of products yielded. Also known, by measurement, is the quantity of materials lost to the waste water. For uncontrolled sources, it is assumed that all compounds not accounted for by these three variables are lost to the atmosphere through the vent. As previously mentioned, these calculations are based on full scale production.

In the case of sources with some type of control equipment installed, a fourth variable is involved in the material balance calculation. This is the amount of materials recovered from the control equipment.

Control equipment efficiency calculations are based also on a material balance. A balance is calculated on the process with the assumption that all materials not accounted for by the three aforementioned variables enter the scrubber. The amount of material recovered from the scrubber is a known quantity. The ratio of the quantity recovered over the quantity entering the scrubber yields the scrubber efficiency.

Storage tank emissions are calculated on the basis of the physical properties of the compounds stored, the tank dimensions, and climate conditions. All necessary variables are considered in the calculations and all tanks are done on an individual basis by computer.

Methods of measurement and estimation were discussed with representatives from all plant areas. It is apparent that the methods utilized are appropriate and complete.

APPENDIX A

VOC EMISSION SOURCES

TABLE A-1. VOC EMISSION SOURCES

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-3-1	7760P				
Dye Manufacturing Plant		Vent B	Wet Scrubber/95%	Isopropanol	0.2
				Furan	0.1
				Methanol	0.1
		Vent C	Wet Scrubber/98%	Isopropanol	0.1
				Methanol	0.1
				Ethanol	0.1
		Vent D	Wet Scrubber/98%	Acetic Acid	0.1
B-3TF-1	8435P			PERMIT TOTAL	0.8
Building 3 Storage Tanks		Tank 3Y-7	None	Ethyl Acetate	0.1
		Tank 3Y-8	None	Acetone	0.1
		Tank 19	None	Methanol	0.1
B-3Y-1	8436P			PERMIT TOTAL	0.3
Building 3 Waste Solvent Dumpster		Tank Vent	None	Mixture:	0.1
				Toluene Isopropanol o-Nitro Toluene	
				PERMIT TOTAL	0.1

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-5R-1	5945P				
Solvent Manufacture		Vent A	Condenser/99%	Acetic Acid	19.4
				Isobutanol	7.4
				Isopropanol	6.3
				Sec-butanol	2.4
		Vent B	Condenser/99%	Isobutyl Acetate	3.0
				Isopropyl Acetate	2.5
				Sec-butyl Acetate	0.9
				PERMIT TOTAL	41.9
B-5R-2	5946P				
Solvent Manufacture		Vent A	Condenser/99%	2-Ethyl Hexanol	3.7
				Acetic Acid	20.9
				Ethanol	13.9
				Ektasolve	16.7
				Ethylene Glycol	4.3
		Vent B	Condenser/99%	Ectasolve Acetate	5.2
				2-Ethylhexyl Acetate	1.1
				Ethylene Glycol Diacetate	1.7
				Ethyl Pivalate	1.1
				PERMIT TOTAL	68.6

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-5R-3	5947P				
Solvent Manufacture		Vent A	Condenser/99%	Acetic Acid	30.9
				n-Propanol	30.8
		Vent B	Condenser/99%	n-Propyl Acetate	3.4
				PERMIT TOTAL	64.1
B-6C-27 & 28	7561P	Vent A	Wet Scrubber/99%	Propane	0.6
				Ethylene	1.1
				PERMIT TOTAL	1.7
B-7R-3	7828P				
Acetic Anhydride Mfg.		Vent J	None	Propane	67.0
				Ethylene	114.0
		Vent K	None	Propane	27.0
				Ethylene	46.0
		Vent L	None	Propane	3.0
				Ethylene	4.0
		Vent R	None	Propane	11.0
				Ethylene	1.2

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-7R-3 Continued	7828P	Vent S	None	Propane	18.7
				Ethylene	2.0
				Other Unsaturates	7.7
		Vent T	None	Propane	18.7
				Ethylene	2.0
				Other Unsaturates	7.7
		Vent U	None	Propane	18.7
				Ethylene	1.9
				Other Unsaturates	7.7
		Vent V	None	Propane	33.5
				Ethylene	3.5
				Other Unsaturates	13.9
		Vent W	None	Propane	18.7
				Ethylene	1.9
				Other Unsaturates	7.7
		Tank 36	None	Acetic Acid	0.1
		Vent Y	None	Propane	45.6
				Ethylene	4.8
				Other Unsaturates	18.9
		Vent Z	None	Propane	4.4
				Ethylene	0.5
				Other Unsaturates	1.8

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-7R-3 Continued	7828P	Tank 40	None	Mixture: Acetic Acid Acetic Anhydride	0.1
		Tank 41	None	Mixture: Acetic Acid Acetic Anhydride	0.1
				PERMIT TOTAL	513.8
B-10-1 Special Acids and Alcohol Manufacturing	7766	Vent A	Condenser	Heptane	0.1
				Crontonaldehyde	0.6
		Vent D	None	Crontonaldehyde	1.1
				Crotonic Acid	0.2
				Mixture: Propionic Acid Butyric Acid Formic Acid Acetic Acid	0.1
		Vent E	None	Crontonic Acid	0.8
		Reactor B	Condenser	2-Methyl-1,3-Pentadiene	0.2
		Reactor C	Condenser	2-Methyl-1,3-Pentadiene	0.2

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-10-1 Continued	7766	Refining E	Condenser	2-Methyl-1,3-Pentadiene	0.4
		Refining F	Condenser	2-Methyl-1,3-Pentadiene	0.1
				PERMIT TOTAL	3.8
B-10-2 Acid and Alcohol Manufacture	5949P	Oxidier Vent	None	2-Ethylhexaldehyde	5.0
				PERMIT TOTAL	5.0
B-10-4	7443P	Vent A	Vapor Recovery/99%	2-Ethyl-Hexene	2.0
				2-Ethyl-Hexanol	3.0
				Methanol	6.0
		Vent B	Vapor Recovery/99%	2 Ethyl-Hexene	1.8
				2 Ethyl-Hexanol	4.5
				Methanol	4.5
		Vent C	Vapor Recovery/99%	2-Ethyl-Hexanol	0.1
				Methanol	0.1
		Vent D	Vapor Recovery/99%	2-Ethyl-Hexanol	0.1
				Methanol	0.1
		Vent E	None	2-Ethyl-Hexene	0.1
		Vent F	None	2-Ethyl-Hexene	0.1

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
Di-2-Ethyl-hexylpthalate Production		Vent A	Vapor Recovery/99%	2-Ethyl-Hexanol 2-Ethyl-Hexene	1.3 0.9
		Vent B	Vapor Recovery/99%	2-Ethyl-Hexanol 2-Ethyl-Hexene	5.5 2.1
		Vent C	Vapor Recovery/99%	2-Ethyl-Hexanol	0.1
		Vent D	Vapor Recovery/39%	2-Ethyl-Hexanol	0.1
		Vent E	None	2-Ethyl-Hexanol	0.2
		Vent F	None	2-Ethyl-Hexanol	0.1
		Vent M	None	2-Ethyl-Hexanol	0.1
				PERMIT TOTAL	32.8
B-10-5	7444P	Vent 3A	None	Acetic Acid Acetic Anhydride	0.1 0.1
Ester Production				PERMIT TOTAL	0.2
B-10-6	7445P	Process 1	None	Methanol	0.1
Plasticizer Production		Process 3	None	Mixture: Acetic Acid Acetic Anhydride	0.2

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-10-6 Continued	7445P			PERMIT TOTAL	0.3
B-10-7 Plasticizer Production	7447P	Process Vents	None	Mixture: 2-Ethyl-Hexanol n-Butanol Ektasolve 2-Ethyl-Hexanoic Acid n-Hexanol Pelargnoic Acid PERMIT TOTAL	0.1 0.1
B-10-8 Plasticizer Production	7446P	Process Vents	None	Mixture: n-Butanol Ektasolve 2-Ethyl-Hexanol PERMIT TOTAL	0.1 0.1
B-10-9 Plasticizer Production	7448P	Process Vents	None	Mixture: Acetic Anhydride Isobutyric Anhydride Acetic Acid Isobutyric Acid Butanol PERMIT TOTAL	0.1 0.1

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-10-10	7449P	Vent 3C	None	Diethyl Ether	0.1
Plasticizer Production		Vent 3K	None	Ethyl Alcohol	0.1
				Diethyl Ether	56.5
				PERMIT TOTAL	56.7
B-10-11	7411P	Vent 1A	None	Trimethylpentanediol	0.3
				PERMIT TOTAL	0.3
B-13-12	7328P	Vent A	None	Mixed Organic Solvents	33.5
Cyclic Intermediats Production				PERMIT TOTAL	33.5
B-13-13	8141P	Vent H	None	Toluene	0.3
Cyclic Intermediate Production		Vent Q	None	Toluene	0.4
		Vent T	None	Toluene	0.1
		Vent LL	None	Acetone	0.1
		Vent NN	None	Acetone	0.2
		Vent PP	None	Toluene	0.3

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-13-13 Continued	8141P	Vent RR	None	Toluene	0.4
		Vent SS	None	Toluene	0.4
				Isopropanol	0.1
				PERMIT TOTAL	2.3
B-134-1	8013P	Dumpsters 1 and 2	None	Mixture: Toluene, Acetone, Isopropanol, Methanol, 2-Ethozyethanol	0.1
Waste Solvent Trailers and Dumpsters		Trailers 451 & 492	None	Mixture: Toluene, Acetone, Isopropanol, Methanol, 2-Ethoxyethanol	0.7
				PERMIT TOTAL	0.8
B-29-2	8392P	Vents A and B	None	Benzene	0.1
Adhesive Production		Vent G	None	Heptene	0.1
				PERMIT TOTAL	0.2

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-34-TF Building 34 Storage Tank	6333P	Vent A	None	Mixture: Acetic Anhydride Acetic Acid	0.6
				PERMIT TOTAL	0.6
B-51-20 Isobutylene Storage	8134	Tank Vent	None	Isobutylene	2.4
				PERMIT TOTAL	2.4
B-55-TF Chemical Storage	6334P	9 Tanks through Common Vent	Wet Scrubber/95%	Acetic Acid Propionic Acid Butyric Acid	7.4 0.7 1.1
		Tanks 11 and 12	None	Butyric Anhdride	3.0
				PERMIT TOTAL	12.2
B-57-4 Hydroquinone Production	7786	#1 Jet	None	Quinone	0.8
		#2 Jet	None	Quimome	0.7
				PERMIT TOTAL	1.5
B-57A-3 Cyclic Intermediate	7789P	Vent B	None	Heptane	0.3

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-57A-3 Continued	7789P	Vent E	None	Mixture: Methanol Acetone Toluene Heptane Isopropanol Acetic Acid	0.4
		Vent F	None	Mixture: Methanol Acetone Toluene Heptane Acetic Acid	0.2
		Vent G	None	Isopropanol	0.1
		Vent H	None	Mixture: Methanol Acetone Toluene Heptane Acetic Acid	0.4
		Vent I	None	Isopropanol	2.1
				PERMIT TOTAL	3.5

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-57B-1	7412P	Vent A	None	Isopropanol	4.2
				Methanol	0.2
Color Developers Production				Ethanol	1.4
		Vent C	None	Isopropanol	0.2
		Vent D	None	Ethanol	0.5
				Methanol	0.3
		Vent E	None	Ethanol	1.3
				Benzene	0.4
		Vent F	None	Isopropanol	3.6
		Vent G	None	Isopropanol	3.3
		Vent H	None	Acetone	2.9
				PERMIT TOTAL	18.3
B-57B-2	7788P	Vent C	None	Acetone	0.2
Cyclic Intermediate Production		Vent D	None	Acetone	0.5
				PERMIT TOTAL	0.7
B-57BTF-1	8368P	Tank 52-4	None	Toluene	0.1
Building 57 Tank Yard		Tank 52-S	None	Acetone	0.1

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-57BFT-1 Continued	8368P	Tank 52-11	None	Isopropanol	0.2
		Tank 52-13	None	Ethanol	0.1
		Tank 52-14	None	Ethanol	0.1
		Tank 52-32	None	Formaldehyde	0.2
				PERMIT TOTAL	0.8
B-57TF-1 Building 57 Storage	8360P	Tank 51-14	None	Isopropanol	0.1
				PERMIT TOTAL	0.1
B-67-1 Conveyor and Dryer Exhaust	6492P	Vent A	Wet Scrubber/95%	Acetic Acid	1.8
				Propionic Acid	0.4
				Butyric Acid	0.9
		Vent B.	Wet Scrubber/95%	Acetic Acid	7.5
				Propionic Acid	0.4
				Butyric Acid	1.3
		Vent C	Wet Scrubber/95%	Acetic Acid	8.5
				Propionic Acid	0.9
				Butyric Acid	2.2
		Vent D	Wet Scrubber/95%	Acetic Acid	21.0
				Propionic Acid	1.3
				Butyric Acid	3.1

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-67-1 Continued	6492P	Vent E	Wet Scrubber/95%	Acetic Acid	20.5
				Propionic Acid	0.9
				Butyric Acid	2.2
				PERMIT TOTAL	72.9
B-80-2	8328P	Crude Tank	None	Acetone	0.1
Large Storage Tanks		Tank 3	None	Acetone	0.7
				PERMIT TOTAL	0.8
B-81-1	7451P	Vent A	Wet Scrubber/95%	Acetic Acid	29.8
Dryer Exhaust		Vent B	Wet Scrubber/95%	Acetic Acid	162.0
		Vent C	Wet Scrubber/95%	Acetic Acid	11.7
		Vent D	Wet Scrubber/95%	Acetic Acid	19.8
		Vent E	Wet Scrubber/95%	Acetic Acid	21.0
		Vent F	Wet Scrubber/95%	Acetic Acid	5.5
		Vent G	Wet Scrubber/95%	Acetic Acid	11.0

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-81-1 Continued	7451P	Vent GG	Wet Scrubber/95%	Acetic Acid	11.0
				PERMIT TOTAL	271.8
B-82TF Building 82 Tank Farm	6491P	Common Vent	Wet Scrubber/95%	Acetic Acid Propionic Acid Butyric Acid	6.3 0.6 0.9
				PERMIT TOTAL	7.8
B-82-1 Pnumatic Unloading Station	6001P	Fume Vent	Wet Scrubber/95%	Acetic Acid	5.8
				PERMIT TOTAL	5.8
B-85-1 Carbon Bed Exhaust	7416P	Vent A	Carbon Beds/98%	Acetone	133.0
				PERMIT TOTAL	133.0
B-86-101 Fuel Stoage Tanks		Gasoline Tank	Underground	Gasoline Vapors	3.1
				PERMIT TOTAL	3.1
B-90B-1 Hydroxyanisole Production	7775	Vent A	None	Mixture: n-Propanol Cyclohexane Heptane Toluene Dimethylsulfate	1.0

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-90B-1 Continued	7775	Vent H	None	Cyclohexane	0.1
		Vent I	None	Acetone	3.9
		Vent K	None	Heptane	0.1
				PERMIT TOTAL	5.1
B-99-1	7417P	Vent B	Wet Scrubber/99%	Ethyl Acetate	0.1
				Ethyl Formate	0.1
Acetaldhyde Manfuacture		Vent C	Wet Scrubber/93%	Ethyl Acetate	0.3
				PERMIT TOTAL	0.5
B-99-2	7761P	Vent A	Wet Scrubber/99%	Acetaldehyde	0.1
				Ethanol	0.1
Acetic Acid Production				Ethyl Acetate	0.2
				Ethyl Formate	2.5
		Vent E	Condenser/99%	n-Propyl Acetate	3.4
		Tank 21	None	n-Propyl Acetate	0.1
				PERMIT TOTAL	6.4
B-99-3	6615P	Vent A	Carbon Bed/95%	Acetaldehyde	0.3
				Acetic Acid	0.1
Inert Gas Purification				Methyl Acetate	0.1

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-99-3 Continued	6615P	Vent B	None	Acetaldehyde Acetic Acid Ethanol Methyl Acetate PERMIT TOTAL	16.6 4.4 2.7 1.8 26.0
B-99-4 Ethyl Acetate Production	7419P	Vent A	None	Isopropyl Acetate Ethanol PERMIT TOTAL	1.3 0.5 1.8
B-99A-1 N-Butyric Acid Production	7762P	Vent A	Wet Scrubber/99%	Butyraldehyde PERMIT TOTAL	1.1 1.1
B-99A-2 Propionic Acid Manufacture	7763P	Vent A	Wet Scrubber/99%	Propionaldehyde PERMIT TOTAL	305.7 305.7
B-99A-3 Butryic Acid Production	7420P	Vent A	Wet Scrubber/99%	Butyraldehyde PERMIT TOTAL	1.1 1.1
B-99A-6 Aliphatic ester production	7327P	Vent A	Condenser/99%	Mixture: Isobutyl Acetate Isobutyl Alcohol Isopropyl Acetate Isopropyl Alcohol	0.1

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-99A-6 Continued	7327P			PERMIT TOTAL	0.1
B-99A-8 Crotonoldehyde Production	7421P	Vent A	None	Acetaldelhyde Crotonaldehyde PERMIT TOTAL	1.8 0.1 1.9
B-99A-11 Acetic Acid Distillation	8114P	Tank 29	None	n-Propyl Acetate PERMIT TOTAL	0.1 0.1
B-100TF n-Butyric Acid Production Storage Facilities	6352P	Tank 33	None	Crotonaldehyde PERMIT TOTAL	0.2 0.2
B-102A-1 VEREL Fiber Production	5657P	Vent A Room Exhaust	Carbon Bed/98% None	Acetone Acetone PERMIT TOTAL	60.0 1,200.0 1,260.0
B-102C-1 VEREL Fiber Processing	8370P	Room Exhaust	None	Acetone PERMIT TOTAL	1,400.0 1,400.0

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-118-2	8104P	Vent A	Plate Column Scrubbers/ 99%	Acetone	8.4
				Isopropanol	0.4
Acetone Manufacture		Vent B	Ammonia Condenser/99%	Acetone	75.0
		Vent C	None	Acetaldelhyde	45.6
				PERMIT TOTAL	129.4
B-120-1	7425P	Vent A	Wet Scrubber/95%	Various Hydrocarbons	61.5
Acetate Production		Vent B	Wet Scrubber/95%	Various Hydrocarbons	65.5
		Vent C	Wet Scrubber/95%	Various Hydrocarbons	84.0
		Vent D	Wet Scrubbers/95%	Various Hydeocarbons	97.0
				PERMIT TOTAL	308.0
B-120TF	7424P	Tank 14	None	Acetic Anhydride	1.1
Building 120 Tank Farm		Tank 51	None	Propionic Acid	0.6
				PERMIT TOTAL	1.7
B-120TF	6540P	Tank 1	None	Mixture: Acetic Anhydride Butyric Anhydride	0.6
Building 120 Storage					

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-120TF Continued	6540P	Tank 4	None	Mixture: Acetic Acid Propionic Acid	0.3
		Tank 5	None	Mixture: Acetic Acid Butyric Acid	0.1
		Tank 9	None	Butyric Acid	0.6
		Tank 10	None	Mixture: Acetic Acid Butyric Acid	1.9
				PERMIT TOTAL	3.5
B-122-3A	7781P	Tank 1	None	Quione	0.6
Tecmangam Production		Tank 2	None	Quione	0.7
		Tank 3	None	Quione	0.6
		Tank 7	None	Quione	0.7
				PERMIT TOTAL	2.6

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-122-4 Acid Sludge Neutralization	7792P	Tanks 1-3	None	Acetic Acid	0.1
				PERMIT TOTAL	0.1
B-123-1 Triethyl Phosphate Production	6715P	Ether	Condenser/50%	Mixture: Diethyl ether Ethylene	350.0
				PERMIT TOTAL	350.0
B-125-1 Filter Tow Dryers	8097P	Vent A	None	Acetone	57.0
				PERMIT TOTAL	57.0
B-125A-3 Second Stage Filter Tow Dryers	8098P	Vent A	None	Acetone	54.0
				PERMIT TOTAL	54.0
B-127-1 Filter Products	7770P	Vent A	Carbon Bed/92%	Acetone	340.0
				PERMIT TOTAL	340.0
B-127-2 Filter Products	7764P	Vent A	Carbon Bed/90%	Acetone	288.0
				PERMIT TOTAL	288.0

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-137TF	6493P	Tank 352	None	Acetic Anhydride	0.3
Building 137 Tank Farm		Tank 356	None	Acetic Anhydride	0.8
				PERMIT TOTAL	1.1
B-174B-1	614DP	Vent A	None	Various Solvents	31.2
Laboratory Pellet Coating				PERMIT TOTAL	31.2
B-174B-2	7438P	Vent A	None	Various Solvents	1.1
Polymer Production				Various Hydrocarbons	0.2
				PERMIT TOTAL	1.3
B-176-1	7440P	Vent A	None	Acetone	3.8
Cleaning Vats				PERMIT TOTAL	3.8
B-190C-4	6125P	Vent A	None	Saturated Hydrocarbons	0.7
Plastic Pellet Production				PERMIT TOTAL	0.7
B-190C-6	6356P	Vent A	None	Saturated Hydrocarbons	1.2
Plastic Pellet Production				PERMIT TOTAL	1.2

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-190C-7	6357P	Vent A	None	Saturated Hydrocarbons	0.1
Banbury Mixer				PERMIT TOTAL	0.1
B-190E-3	6330P	Vent A	None	Saturated Hydrocarbons	0.8
Plastic Processing				PERMIT TOTAL	0.8
B-194-1	6000P	Vent C	None	Xylene	0.1
VEREL Polymer Manufacturing		Vents D-G	None	Xylene Isopropanol Acrylonitrile	0.1 0.1 0.1
		Vents I-K	None	Vinylidenechloride Acrylonitrile	0.3 1.3
		Vents L&M	None	Vinylidenechloride Acrylonitrile	0.3 1.1
		Vent V	None	Vinylidenechloride Acrylonitrile	1.1 1.9
		Vent W	None	Vinylidenechloride Acrylonitrile	8.0 4.0
		Vent X	None	Vinylidenechloride Acrylonitrile	8.2 6.2

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-194-1 Continued	6000P			PERMIT TOTAL	32.8
B-200TF	6331P	Tank 40-75	None	Propionaldehyde	15.1
Long Island Tank Farm		Tank 90-54	None	2-Butyraldehyde	1.7
		Tank 43-51	None	2-Ethylhexaldehyde	0.1
		Tank 43-55	None	2-Ethylhexaldehyde	0.1
		Tank 40-61	None	n-Butyraldehyde	1.1
		Tank 40-74	None	Propionaldehyde	15.1
				PERMIT TOTAL	33.4
B-212TF	7452P	Various Tanks	None	Mixture: Acetic Acid Acetic Anhydride Crotonaldehyde	0.2
Building 212 Tank Fark				PERMIT TOTAL	0.2
B-218TF-1	8140P	Tank 83	None	Mixture: Toluene Acetone Isopropanol Methanol	0.1
Building B-13 Tanks					

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-218TF-1	8140P				
Continued				2-Ethoxyethanol	
				PERMIT TOTAL	0.1
B-220-1	6327P	Storage Tank	None	Methanol	26.7
Dimethyl Terephthalate Production		Hold Tank	None	Methanol	47.2
				PERMIT TOTAL	73.9
B-221-2	8383P	Letdown Tank	None	Methanol	8.4
No.1 CHDM Plant				PERMIT TOTAL	8.4
B-221A-1	8385P	Letdown Tank	None	Methanol	8.4
No. 2 CHDM Plant				PERMIT TOTAL	8.4
B-221B-1	8384P	Letdown Tank	None	Methanol	8.4
No.3 CHDM Plant				PERMIT TOTAL	8.4
B-225-1	7768P	Vent A	None	Various Hydrocarbons	0.1
No. 1 Hydrogen Plant		Vent B	None	Methylethylamine	0.1

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-225-1 Continued	7768P			PERMIT TOTAL	0.2
B-225A-1	7793P	Vent A	None	Various Hydrocarbons	0.1
Inert Gas Plant				PERMIT TOTAL	0.1
B-226P-1	6799P	Vents 1H-1K	None	Methanol	0.3
Polyester Polymer Production		Vent 1L	None	Methanol	0.6
		Vent 1M	None	Methanol	0.1
		Vent 1N	None	Methanol	1.1
		Vent 2A	None	Methanol	2.1
		Vent 2B	None	Methanol	0.9
		Vents 4A-4R	None	Methanol	128.0
				PERMIT TOTAL	133.1
B-232-1	7777P	Vents A&B	Plate Column Scrubber/46%	Methyl Acetate	91.0
Terephthalic Acid Manufacture				Xylene	6.0
				Acetic Acid	2.0
				Acetaldehyde	23.0

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-232-1 Continued	7777P	Vent C	Plate Column Scrubber/82%	Methyl Acetate	252.0
				Acetaldehyde	33.0
				p-Xylene	32.0
				Acetic Acid	143.0
		Vents D & E	Plate Column Scrubber/46%	Methyl Acetate	82.0
				Acetic Acid	8.0
				p-Xylene	5.0
				Acetaldehyde	24.0
		Vent F	Inert Gas Scrubber/76%	Methyl Acetate	27.0
				Acetic Acid	0.5
				p-Xylene	5.0
				Acetaldehyde	0.6
		Vent G	None	Methyl Acetate	9.0
				Acetic Acid	0.2
				p-Xylene	2.0
				Acetaldehyde	0.2
		Vent H	None	Methyl Acetate	9.0
				Acetic Acid	0.2
				p-Xylene	2.0
				Acetaldehyde	0.2
		Vent I	Condenser/90%	Acetic Acid	63.0
				Methyl Acetate	4.6
				p-Xylene	0.2

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-232-1 Continued	7777P	Vent K	Condensor/85%	Acetaldehyde	2.0
				Methyl Acetate	0.8
				n-Propyl Acetate	0.2
		Vent L	None	Acetaldehyde	76.0
				Methyl Acetate	21.0
				n-Propyl Acetate	5.0
		Vent T	None	Acetic Acid	3.2
		Vent U	Plate Column Scrubber/66%	Methyl Acetate	272.0
				p-Xylene	47.0
				Acetic Acid	72.0
				Acetaldehyde	118.0
		Vent V	Condenser/50%	Methyl Acetate	5.0
				Acetaldehyde	0.4
				n-Propyl Acetate	0.7
				Ethyl Acetate	0.3
		Vent W	Wet Scrubber/50%	Methyl Acetate	4.0
				Acetaldehyde	0.2
				p-Xylene	2.0
		Vent X	None	Acetic Acid	1.5
		Vent Z	Wet Scrubber/60%	Methyl Acetate	8.0
				Acetaldehyde	0.2
				p-Xylene	4.0

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-232-1 Continued	7777P	Vent AA	None	Acetaldehyde Methyl Acetate p-Xylene	0.2 0.1 0.4
		Tanks 29, 38 & 42	None	Mixture: Acetaldehyde Acetic Acid Ethyl Acetate Methyl Acetate Xylene Methanol	1.1
		Tank 03	None	p-Xylene	0.5
		Tank 09	Underground	Mixture: Acetaldehyde Ethyl Acetate Methyl Acetate Methanol N-Propyl Acetate	2.0
		Tanks 36 and 43	None	Mixture: Acetic Acid Cobalt Acetate Terephthalic Acid Xylene	12.1
		Tanks 34, 37 & 44	None	Acetic Acid	3.1

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-233-1 Continued	7777P	Vent AC	None	Acetaldehyde	6.9
				Methyl Acetate	17.3
				Methanol	0.1
				n-Propyl Acetate	0.2
				PERMIT TOTAL	1,512.3
B-236TF-1	6325P	Tank HB-01	None	Methanol	2.6
Storage and Feed Tanks		Tank HC-01 and HD-01	None	Methanol	0.2
		Tank HC-01	None	Methanol	2.2
		Tank HH-01	None	Methanol	6.4
		Tanks HI-01 and HJ-01	None	O-Xylene	0.2
		Tank HL-01	None	Methanol	9.1
				PERMIT TOTAL	20.7
B-237-1	6326P	Tank QB-52	None	Mixture: Dimethyl Terephthalate Methyl Paratoluate Methyl benzoate Methylparformyl benzoate	0.1
Dimethyl Terphehalate Plant No. 1					

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-237-1 Continued	6326P	Tank OC-51	None	Dimethyl Terephthalate	36.0
				PERMIT TOTAL	36.1
B-237A-1	8361P	Vent D	None	Methanol	1.8
Dimethyl Terephthalate Plant No. 2		Vent E	None	Xylene	0.1
		Vent F	None	Mixture: Methyl-p-Toluate Dimethyl Terephthalate Methyl Benzoate Methyl-p-Formyl Benzoate	0.2
		Tank TD-51	None	Mixture: Methyl-p-Formyl Benzoate Methyl-p-Toluate Dimethyl Terphthalate Methyl Benzoate	0.4
		Vent J	Baffle Tray Scrubber	Methanol	39.5
		Vent K	None	Acetaldehyde Dimethyl Ether Methyl Acetate Methanol	232.0 1,830.0 452.0 127.0
		Tank TB-50	Pressure Tank	o-Xylene	0.1

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-237A-1 Continued	8361P	Vent O	None	o-Xylene	2.2
				PERMIT TOTAL	2,685.3
B-239-4	8355P	Vent D	Condenser	Various Hydrocarbons	0.3
				PERMIT TOTAL	0.3

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-244-1	8143P	Jet Pot	Condenser/62%	Ethylene	0.9
Diketene Refining				Propane	2.1
				1, 3-Butadiene	0.7
				PERMIT TOTAL	3.7
B-244-2	8363P	Jet Pot	Condenser/92%	Methanol	7.4
Acetoacetic Esters Production				Ethanol	0.3
				PERMIT TOTAL	7.7
B-244A	7765P	Vent A	Wet Scrubber/90%	Acetone	4.3
Ketone Production				Methylpropylketone	0.3
		Tanks 83 and 84	None	Various Ketones	0.5
		Tanks 64 and 65	None	Various Ketones	0.4
		Tanks 70 and 63	None	Various Ketones	0.1
		Tank 92	None	Isobutyraldehyde	5.9

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-244A Continued	7765P	Tank 93	None	Acetone	7.3
		Tank 201	None	Various Ketones	0.4
				PERMIT TOTAL	19.2
B-244B-1 Ketone Production	8372P	Vent A	Wet Scrubber/88%	Acetone	32.2
				Isopropanol	0.2
				Methyl Isobutyl Ketone	3.4
		Tank 243	None	Mixture: N-Butyraldehyde Propionaldehyde	0.2
		Tanks 272, 264,265,283 269,273,201, 271,270,263, 284	None	Various Ketones	2.1
		Tank 292	None	Acetone	8.1
				PERMIT TOTAL	46.2
B-244D-2 Dimethyl Acetoacetimide	8336P	Tanks 109 and 110	None	Mixture: Dimethyl Actoacetimide Monomethyl Acetoacetimide	0.7

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-244D-2 Production Continued	8336P			PERMIT TOTAL	0.7
B-244E-2 Acetoacetarylides Reaction Facility	999696P	Vents F, G and H	None	Acetic Acid	0.1
		Vent J	None	Acetone	0.1
				PERMIT TOTAL	0.2
B-246-2 Cyclic Intermediates Production	8337P	Vent A	Wet Scrubber/95%	Ethylene	0.8
		Vent H	None	Isopropanol	0.1
				Methanol	0.1
				Ethanol	0.1
		Vents I, J K, M, N, O, T	None	Isopropanol	1.0
				Methanol	1.0
				Ethanol	1.0
		Vents P, A, R	None	Isopropanol	0.2
				Methanol	0.2
				Ethanol	0.2
				PERMIT TOTAL	4.7

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-254-1	7428P	Vent A	Wet Scrubber/92%	Acetone	152.4
Filter Products				PERMIT TOTAL	152.4
B-255-1	7530P	Vents 1A and 1B	None	Methanol	35.0
Polyester Polymer Manufacture		Vents 1C And 1D	None	Ethylene Glycol	4.4
		Vent 2C	None	Methanol	4.4
		Vent 2D	None	Ethylene Glycol	0.9
		Vents 5A-5G	None	Ethylene Glycol	3.4
				PERMIT TOTAL	48.1
B-261-1	8362P	Vent C	None	Methanol	1.8
Dimethyl Terephthalate Plant No. 3		Tank DA-53	None	Dimethyl Terephthalate	0.6
				o-Xylene	0.2
		Tank CS-50	None	Mixture: o-Xylene Dimethyl Terephthalate	0.1

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-261-1 Continued	8362P	Tank DB-52	None	Mixture: Dimethyl Terephthalate Methyl-p-Toluate Methyl Benzoate Methyl-p-Formyl Benzoate	0.2
		Tanks DD-51 and 628	None	Mixture: Methyl-p-Toluate Benzoate Methyl-p-Formyl Benzoate Dimethyl Terephthalate Methyl Benzoate	1.1
		Vent L	None	Methanol	41.2
		Vent M	None	Dimethyl Terephthalate	8.8
		Tank DB-50	None	o-Xylene	0.1
		Tank 431	None	Mixture: n-Butanol Ethylene Glycol Methanol 2-Ethoxyethanol	0.3
				PERMIT TOTAL	54.4
B-261A-1	6440P	Tank FA-53	None	Mixture: Dimethyl Terephthalate	8.2

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-261A-1	6440P			Xylene	
Dimethyl Terephthalate Plant No. 4 Continued		Tank FB-52	None	Mixture: Dimethyl Terephthalate Methyl paratoluate Methyl Benzoate	0.2
		Tank FD-51	None	Mixture: Methyl-p-Formyl Benzoate Methyl Paratoluate Methyl Benzoate Dimethyl Terephthalate	0.6
		Vent E	None	Methyl Paratoluate	49.0
				Methyl Benzoate	56.0
				Xylene	28.0
		Vent F	None	Methanol	79.0
				PERMIT TOTAL	221.0
B-262-1	7827P	Tanks AA-01 Through AE-01	None	Methanol	5.8
Raw Material Storage		Vents H, I and J		Methyl Acetate	34.6
				Acetaldehyde	0.8
				p-Xylene	

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-262-1 Continued	7827P			Acetic Acid	0.6
				PERMIT TOTAL	43.3
B-263-4 Fuel Storage	8354P	Tank MF55	None	Fuel Oil Vapors	0.1
				PERMIT TOTAL	0.1
B-265B-2 Specialty Polymer Plant	7429P	Vent D	None	Methanol	4.3
				p-Dioxane	0.2
		Vent E	None	Methanol	0.3
		Vents G, H and I	None	Methanol	0.1
				PERMIT TOTAL	4.9
B-267-1 Organic Chemical Production	7430P	Vents A, B and C	Wet Scrubbers/50%	Mixed Solvents	132.0
		Vent D	Wet Scrubber/90%	Mixed Solvents	8.8
		Vents E, F and G	Wet Scrubbers/50%	Mixed Solvents	132.0
				PERMIT TOTAL	272.8

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-267-2	6495P	Vent C	None	Mixed Solvents	43.8
Organic Chemical Production		Vent D	Wet Scrubber/50%	Mixed Solvents	22.0
		Vent E	Wet Scrubber/50%	Mixed Solvents	4.4
				PERMIT TOTAL	70.2
B-267-4	7453P	Vent A	Wet Scrubber/70%	Mixture: Acetone, Methanol, Isopropanol, Heptane, Toluene	0.1
Drum Melters				PERMIT TOTAL	0.1
B-267-5	7457P	Vents A, B and C	None	Mixture: Acetone, Methanol, Isopropanol, Heptane, Toluene	1.8
Organic Chemical Production				PERMIT TOTAL	1.8
B-267A-1	7324P	Vents A Through E	Wet Scrubber/50%	Mixed Solvents	220.00
Organic Chemical Production					

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-267A-1 Continued	7324P			PERMIT TOTAL	220.0
B-267A-2 Organic Chemical Drying	6633P	Vents A And B	Wet Scrubber/50%	Mixed Solvents	4.4
				PERMIT TOTAL	4.4
B-267A-3 Organic Chemical Production	6634P	Vent A	Wet Scrubber/50%	Xylene	1.1
		Vent B	Wet Scrubber/50%	Xylene	2.0
				PERMIT TOTAL	3.1
B-267D-1 Organic Chemical Production	6635P	Vents A through F	Wet Scrubber/50%	Mixed Solvents	264.0
				PERMIT TOTAL	264.0
B-267D-2 Organic Chemical Production	6636P	Vent A	Wet Scrubber/50%	Mixed Solvents	44.0
		Vent B	Wet Scrubber/50%	Mixed Solvents	43.8
				PERMIT TOTAL	87.8

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-267D-3 Organic Chemical Production	7323P	Vent A	Wet Scrubber/90%	Mixed Solvents	8.8
				PERMIT TOTAL	8.8
B-267D-4 Organic Chemical Production		Vents A And B	None	Mixture: Acetone Methanol Isopropanol Heptane Toluene	3.2
		Vents C and D	None	Mixture: Acetone Methanol Isopropanol Heptane Toluene	0.2
				PERMIT TOTAL	3.4
B-267TF-2 Building 267 Storage Tanks	8132P	Tanks 3002 and 3003	None	Isopropanol	0.3
		Tank 3007	None	Heptane	0.9
		Tank 3008	None	Toluene	0.1

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-267TF-2 Continued	8132P	Tank 3009	None	Methanol	1.5
		Tank 3010	None	Isopropanol	0.7
		Tanks 3052 and 3053	None	Methanol	0.5
		Tanks 3054 and 3060	None	Mixture: Isopropanol Methanol Acetone Toluene Heptane	0.7
		Tank 3039	None	Acetic Acid	0.1
		Tank 3012	None	Acetone	2.3
		Tank 3018	None	Heptane	0.1
		Tank 3020	None	Mixture: Acetone Methanol	0.3
		Tank 3021	None	Acetone	0.4
		Tank 3022	None	Heptane	0.3

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-267TF-2 Continued	8132P	Tank 3023	None	Toluene	0.1
		Tank 3024	None	Mixture: Acetone Isopropanol Methanol	0.1
		Tank 3025	None	Toluene	0.1
		Tank 3061	None	Acetone	0.1
		Tank 3062	None	Mixture: Methanol Toluene	0.1
		Tank 3063	None	Heptane	0.3
		Tank 3064	None	Toluene	0.1
		Tank 3068	None	Mixture: Isopropanol Methanol Acetone	0.1
				PERMIT TOTAL	9.2

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-267Y-1	6956P	Vents B c and D	None	Methanol	0.9
				Acetone	0.9
Waste Stripping				Heptane	0.9
				Toluene	0.9
				Isopropanol	0.9
				PERMIT TOTAL	4.5
B-267Y-2	6800P	Vent A	None	Ispropanol	1.1
Isopropanol Refinery				PERMIT TOTAL	1.1
B-267Y-3	6801P	Vent A	None	Toluene	1.1
Toluene Refinery		Vent B	None	Toluene	1.1
				PERMIT TOTAL	2.2
B-267Y-4	7018P	Vent SC-01	None	Heptane	0.9
				Toluene	0.9
		Vent SC-02	None	Heptane	1.3
				Toluene	0.5
		Vent SC-03	None	Heptane	0.4
				Toluene	0.9
				PERMIT TOTAL	4.9

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-267Y-5	7435P	Tank Vent	None	Methanol	0.1
				Acetone	0.1
Filtrate Neutralization				Heptane	0.1
				Toluene	0.1
				Isopropanol	0.1
				PERMIT TOTAL	0.5
B-267Y-6	7322P	Vent 1B	None	Acetone	0.3
				Methanol	0.2
Solvent Seperation		Vent 2B	None	Acetone	0.3
				Methanol	0.2
				PERMIT TOTAL	1.0
B-267Y-7	7436P	Vent A	None	Isopropanol	0.1
Solvent Seperation		Vent B	None	Isopropanol	0.1
				PERMIT TOTAL	0.2
B-267Y-8	999689P	Vent A	None	Ethylene Glycol	0.8
Ethylene Glycol Recovery				PERMIT TOTAL	0.8
B-267Y-9	8366P	Dumpsters 651, 652, 653 & 654	None	Mixture: Acetone	0.5
Organic Waste Disposal					

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-267Y-9 Continued	8366P			Methanol Isopropanol Heptane Toluene	
		Dumpsters 662, 663 664, 670 671, 672	None	Mixture: Acetone Methanol Isopropanol Heptane Toluene	1.7
		Trailers 294, 443, 455,283,		Mixture: Acetone Methanol Isopropanol Heptane Toluene	5.3
				PERMIT TOTAL	7.5
B-270-1 Polyester Polymer Manufacture	999902P	Vents 1A and 11B	None	Dioxolane Methanol	30.0 28.0
		Vents 1C and 10	None	Ethylene Glycol	2.1

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-270-1 Continued	999902P	Vents 1E and 1N	None	Ethylene Glycol	28.0
		Vents 1F and 1O	None	Triethylene Glycol	0.2
		Vents 1G and 1S	None	Mixture: Dioxolane Methanol	5.9
		Vents 1 H	None	Diethylene Glycol	0.1
		Vent 1 J	None	Ethylene Glycol	2.2
		Vents 1 L and 1 M	None	Ethylene Glycol	5.3
		Vent 1 P	None	n-Butanol	0.4
		Vent 1Q	None	Dowtherm A	1.1
		Vents 2A Through 2T	None	Ethylene Glycol	0.2
		Vents 3A Through 3T	None	Various Hydrocarbons	2.9

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-270-1 Continued	999902P	Vents 4A Through 4D, 4I and 4J	None	Methanol	79.8
		Vents 4E Through 4H, 4K and 4L	None	Methanol	0.2
				PERMIT TOTAL	186.4
B-270-1-IV Polymer Sludge Storage	999759P	Tank SA-01	None	Monomer	0.5
				PERMIT TOTAL	0.5
B-270-1-IX Rail Car Storage	999758P	Tank Car	None	Mixture: Monomer Ethylene Glycol	0.9
				PERMIT TOTAL	0.9
B-270-2 Drying System Vent		Vent 1B	None	Acetaldehyde	0.2
				Ethylene Glycol	5.0
				PERMIT TOTAL	5.2
B-271TF-1 Polymer Division Tank Farm	8456P	Tanks 83-3 and 83-4	None	Ethylene Glycol	0.1

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-271TF-1 Continued	8456P	Tank 83-6	None	Ethylene Glycol	0.1
		Tanks 54-4, 54-5,54-6	None	Mixture: Acrylonitrile Isopropanol	1.3
		Rail Car	None	Dimethyl Terephthalate	0.3
				PERMIT TOTAL	1.8
B-273-1 Dye Manufacturing	5980P	Vent A	None	Acetic Acid	0.9
				PERMIT TOTAL	0.9
B-273TF-1 Building 273 Tank Farm	8365P	Tank YF-6	None	Acetone	0.2
		Tanks YF-3 and YF-5	None	Toluene	0.1
				PERMIT TOTAL	0.3

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
B-274-101 Fuel Storage		Gasoline Tanks	Underground	Gasoline Vapors	4.3
				PERMIT TOTAL	4.3
B-290-1 Filtering Process	999747P	Vent A	None	Acetic Acid	14.7
				PERMIT TOTAL	14.7
B-294-1	7153P	Vent D	None	Various Hydrocarbons	0.3
No. 3 Hydrogen Plant		Vent E	None	Various Hydrocarbons	0.3
				PERMIT TOTAL	0.6
B-303A-1	6798P	Vent F	Wet Scrubber/95%	Various Hydrocarbons	4.4
Predryer Exhaust				PERMIT TOTAL	4.4
B-303A-2	5220P	Vent C	Wet Scrubber/95%	Various Hydrocarbons	3.6
Predryer Exhaust				PERMIT TOTAL	3.6
B-319-1	999729	Vent A	Condensor/99%	o-Xylene	4.8
Cobalt Recovering Facility				PERMIT TOTAL	4.8

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
ETR-55A-1 Tank Farm	8009P	Tanks 68 and 69	None	Propionic Anhydride	0.2
				PERMIT TOTAL	0.2
T-10-1	8119P	Tank 1	None	Mixture: Crotonaldehyde Heptane Crotonic Acid	0.1
		Tank 2	None	2-Ethylhexaldehyde	0.1
		Tank 12	None	Mixture: Crotonic Acid Heptone Crotonaldehyde Acetic Acid Propionic Acid Formic Acid	0.2
		Tank 15	None	Crotonaldehyde	0.1
		Tank 19	None	Methanol	0.4
		Tank 20	None	Methanol	0.4
		Tank 530	None	Mixture: 2-Ethyelhexanoic Acid Crotonic Acid	0.1

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
				Propionic Acid Formic Acid Butyric Acid	
				PERMIT TOTAL	1.4
T-12-1	8131P	Tank 525	None	Sucrose Acetate	0.4
Tank Farm		Tank 526	None	Isobutyrate	0.4
				PERMIT TOTAL	0.8
T-18-1	8133P	Tank 125	None	Di-2-Ethylhexylazelate	0.1
Tank Farm		Tank 126	None	Di-2-Ethylhexylazelate	0.1
		Tank 127	None	Di-2-Ethylhexylazelate	0.1
		Tanks 128 and 129	None	Di-2-Ethylhexyl terephlhalate	0.2
		Tank 131	None	Di-2-Ethylhexylazelate	0.1
				PERMIT TOTAL	0.6
T-18-2	8375P	Tank 141	None	Mixture: Methyl Benzoate Methyl p-toluate o-Xylene	1.0
Tank Farm					

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
				PERMIT TOTAL	1.0
T-21-1	8142P	Tanks 17 and 18	None	Isopropyl Acetate	2.8
Tank Farm		Tanks 25 and 26	None	Isopropyl Acetate	3.6
		Tanks 29 and 30	None	Isobutyl Acetate	1.6
		Tanks 33 and 34	None	Mixture: n-Butyl Acetate n-Propyl Acetate	1.3
		Tank 37	None	Mixture: 2-Ethylhexanol Methanol	0.1
		Tanks 38 and 39	None	Heptane	0.2
		Tank 62	None	Ethanol	0.8
		Tank 65	None	Isopropanol	0.4
		Tank 66	None	Mixture: s-Butyl Alcohol Ethyl Acetate	1.9

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
				PERMIT TOTAL	13.0
T-21-2	8096P	Tank 41	None	n-Propyl Alcohol	0.4
Tank Farm		Tank 43	None	Methanol	1.4
		Tank 48	None	Isopropanol	0.2
		Tank 50	None	n-Propyl Acetate	0.8
				PERMIT TOTAL	2.8
T-22-1	8369P	Tanks 65 and 66	None	Glyceryl Triacetate	0.2
Tank Farm					
T-57-PS-1	8494P	Waste Tank	None	Mixture: Isopropanol Methanol	0.3
Waste Chemical Storage				PERMIT TOTAL	0.3
T-57-PS-1	8494P	Waste Tank	None	Mixture: Isopropanol Acetone Toluene Heptane	1.6
Waste Chemical Storage				PERMIT TOTAL	1.6

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
T-83-PS-4 Building 83 Tank Farm	8338P	Tank 49-1	None	Ethylene Glycol-monomethyl ether	0.1
		Tank 49-2	None	n-Butyl Alcohol	0.2
		Tank 49-3	None	Isobutyl Alcohol	0.3
		Tank 49-4	None	Ethanol	0.2
				PERMIT TOTAL	0.8
T-100-A-2 Tank Farm	8109P	Tanks 44 and 49	None	Mixture: i-Butyl Acetate n-Butyl Acetate	0.8
		Tanks 45 and 46	None	n-Butyraldehyde	0.2
				PERMIT TOTAL	1.0
T-100-A-4 Tank Farm	8107P	Tank 5	None	Isopropanol	1.7
		Tank 7	None	Ethanol	2.1
		Tank 8	None	Isopropanol	1.8
		Tank 9	None	Isopropanol	0.9
				PERMIT TOTAL	6.5

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
T-119-1 Chemical Storage	8118P	Tank 79	None	Mixture: Acetone Isopropanol	0.1
				PERMIT TOTAL	0.1
T-161-1 Tank Farm	8110P	Tanks 38 and 39	None	Ethylene Glycol-monomethyl ether	0.2
		Tanks 38-57 and 38-58	None	Acetic Acid	11.2
				PERMIT TOTAL	11.4
T-161-A-1 Tank Farm	8111P	Tank 16	None	Various Acetates	2.2
		Tank 30	None	n-Propyl Acetate	0.2
		Tanks 40-36 and 40-37	None	Mixture: Isopropyl Acetate Isobutyl Acetate	3.8
				PERMIT TOTAL	6.2
T-161-A-2	7773P	Tank 43	None	Ethylene Glycol-monomethyl ether Acetate	0.1
				PERMIT TOTAL	0.1

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
T-200-1 to T-200-8	8010P	Tanks 49-178 and 49-179	None	2-Ethylhexanol	0.2
Tank Farm		Tanks 35-67 and 35-68	None	Mixture: n-Propyl Alcohol n-Propyl Acetate	0.9
		Tanks 38-70 and 38-71	None	Acetic Acid	12.7
		Tanks 35-101 and 35-103	None	Ethylene Glycol-monoethyl ether Acetate	0.2
		Tank 89-116	None	Diethylene Glycol	0.2
				PERMIT TOTAL	14.2
T-218-1 Tank Farm	8112P	Tanks 1 through 4	None	Mixture: Acetic Acid Butyric Acid Propionic Acid	5.0
				PERMIT TOTAL	5.0
T-212-39-48 Tank Farm	6332P	Tank 39-48	None	Acetic Anhydride	0.1
				PERMIT TOTAL	0.1

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
T-220-TF-1 Tank Farm	8394P	Tanks CH-100, CH-101, XH-50, XH-51, UH-50, WH-50, ZH-50	None	Methanol	6.6
				PERMIT TOTAL	6.6
T-221-TF-1 Tank Farm	8434P	Tanks CG-101, XG-50, XG-51	None	Mixture: Methyl Formcel Ethanol Crude Tocopherol Methanol	2.1
T-221-TF-1 Continued		Dumpster 627	None	Mixture: Ethanol Crude Tocophenol	0.9
				PERMIT TOTAL	3.0
T-244-1 Tank Farm	8012P	Tank 4	None	Mixture: Methanol Ethanol	0.2
				PERMIT TOTAL	0.2
T-248-PS-3	8395P	Tanks A, B, C, P	None	Various Hydrocarbons	1.5

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
T-248-PS-4 Tank Farm		Tank D		Various Hydrocarbons	0.1
				PERMIT TOTAL	1.6
T-272-PS-4 Fuel Storage	8135P	Fuel Oil Storage	None	Fuel Oil Vapors	0.1
		Dowthern Storage	None	Dowthern Vapors	0.1
				PERMIT TOTAL	0.2
T-291-1 Tank Farm	8386P	Tank 046	None	Mixture: Acetic Acid Colbalt Acetate Terephthalic Acid	0.9
				PERMIT TOTAL	0.9
TF-120-1 Tank Farm	8330P	Tank 30	None	Mixture: Acetic Acid Butyric Acid	0.1
		Tanks 31 and 36	None	Mixture: Acetic Acid Butyric Acid Propionic Acid	0.4

TABLE A-1 (CONTINUED)

BUILDING	PERMIT	SOURCE	CONTROL EQUIPMENT/ EFFICIENCY	POLLUTANT	EMISSIONS (TONS/YEAR)
				PERMIT TOTAL	0.5
TR-73-1 Tank Farm	8432P	Common Vent for Tanks 131 through 1616	Wet Scrubber	Various Hydrocarbons	12.2
				PERMIT TOTAL	12.2
WTF-55-1 Tank Farm	8331P	Tanks 13, 14 and 15	None	Mixture: Acetic Anhydride Butyric Anydride	0.7
		Tank 30	None	Propionic Acid	0.1
		Tanks 96 and 97	None	Mixture: Acetic Acid Butyric Acid Propionic Acid	0.2
		Tanks 102, 109 and 110	None	Acetic Acid	0.5
				PERMIT TOTAL	1.5
				PLANT TOTAL	12,390.5

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APPENDIX B

PILOT PLANT AND LABORATORY EMISSIONS

TABLE B-1

PILOT PLANT AND LABORATORY EMISSIONS

BUILDING	PERMIT	POLLUTANT	EMISSIONS (TONS/YEAR)
B-96-1 Spray Drying of Aqueous Polymer Slurries	7126 P	None	0
B-104A-1 Laboratory Extruder	7129 P	Polymer Decomposition Product	0.6
B-104A-2 Oxidation Unit	5402 P	None	0
B-152-1 Polymer Pilot Plant	8460 P	None	0
B-159-1 Organic Chemical Pilot Plant	8459 P	None	0
B-167-1 Fiber Spinning Pilot Plant	8438 P	None	0
		TOTAL	0.6

APPENDIX C

COMPOUND SPECIFIC EMISSIONS

TABLE C-1

ACETALDEHYDE EMISSIONS

BUILDING	PERMIT	SOURCE	EMISSION
B-99-2	7761 P	VENT A	0.1
B-99-3	6615 P	VENT A	0.3
		VENT B	16.6
		PERMIT TOTAL	16.9
B-99A-8	7421 P	VENT A	1.8
B-118-2	8104 P	VENT C	45.6
B-232-1	7777 P	VENTS A&B	23.0
		VENT C	33.0
		VENTS D&E	24.0
		VENT F	0.6
		VENT G	0.2
		VENT H	0.2
		VENT K	2.0
		VENT L	76.0
		VENT U	118.0
		VENT V	0.4
		VENT W	0.2
		VENT Z	0.2
		VENT AA	0.2
		VENT AC	6.9
		PERMIT TOTAL	284.9
B-237A-1	8361 P	VENT K	232.0
B-262-1	7827 P	VENTS H,I,J	0.8
B-270-2	999758P	VENT 1B	0.2
		TOTAL ACETALDEHYDE	582.3

TABLE C-2

ACETIC ACID EMISSIONS

BUILDING	PERMIT	SOURCE	EMISSIONS
B-3-1	7760 P	VENT D	0.1
B-5R-1	5945 P	VENT A	19.4
B-5R-2	5946 P	VENT A	20.9
B-5R-3	5947 P	VENT A	30.9
B-7R-3	7828 P	TANK 36	0.1
B-10-5	7444 P	VENT 3A	0.1
B-55-TF	6334 P	9 TANKS THROUGH COMMON HEAT	7.4
B-67-1	6492 P	VENT A	1.8
		VENT B	7.5
		VENT C	8.5
		VENT D	21.0
		VENT E	20.5
		PERMIT TOTAL	59.3
B-81-1	7451 P	VENT A	29.8
		VENT B	162.0
		VENT C	11.7
		VENT D	19.8
		VENT E	21.0
		VENT F	5.5
		VENT G	11.0
		VENT GG	11.0
		PERMIT TOTAL	271.8
B-82TF	6491 P	COMMON VENT	6.3
B-82-1	6001 P	FUME VENT	5.8
B-99-3	6615 P	VENT A	0.1
		VENT B	4.4
		PERMIT TOTAL	4.5

BUILDING	PERMIT	SOURCE	EMISSION
B-122-Y	7792 P	TANKS 1-3	0.1
B-232-1	7777 P	VENTS A&B	2.0
		VENT C	143.0
		VENTS D&E	8.0
		VENT F	0.5
		VENT G	0.2
		VENT H	0.2
		VENT I	63.0
		VENT T	3.2
		VENT U	72.0
		VENT X	1.5
		TANKS 34,27,44	3.1
		PERMIT TOTAL	296.8
B-244E-2	999696P	VENTS F,G,H	0.1
B-262-1	7827 P		0.6
B-267TF-2	8132 P	TANK 3039	0.1
B-273-1	5980 P	VENT A	0.9
B-290-1	999747P	VENT A	14.7
T-161-1	8110 P	TANKS 38-57, 38-58	11.2
T-200-8	8010 P	TANKS 38-70, 38-71	12.7
WTF-55-1	8331 P	TANKS 102, 109,110	0.5
		TOTAL ACETIC ACID	764.3

TABLE C-3

ACETONE EMISSIONS

BUILDING	PERMIT	SOURCE	EMISSION
B-3TF-1	8435 P	TANK 3Y-8	0.1
B-13-13	8141 P	VENT LL	0.1
		VENT NN	0.2
		PERMIT TOTAL	0.3
B-57B-1	7412 P	VENT H	2.9
B-57B-2	7788 P	VENT C	0.2
		VENT D	0.5
		PERMIT TOTAL	0.7
B-57BTF-1	8368 P	TANK 52-S	0.1
B-80-2	8328 P	CRUDE TANK	0.1
		TANK 3	0.7
		PERMIT TOTAL	0.8
B-85-1	7416 P	VENT A	133.0
B-90B-1	7775	VENT I	3.9
B-102A-1	5657 P	VENT A	60.0
		ROOM EXHAUST	1200.0
		PERMIT TOTAL	1260.0
B-102C-1	8370 P	ROOM EXHAUST	1400.0
B-118-2	8104 P	VENT A	8.4
		VENT B	75.0
		PERMIT TOTAL	83.4
B-125-1	8097 P	VENT A	57.0
B-125A-3	8098 P	VENT A	54.0
B-127-1	7770 P	VENT A	340.0
B-127-2	7764 P	VENT A	288.0

Acetone

BUILDING	PERMIT	SOURCE	EMISSION
B-176-1	7440 P	VENT A	3.8
B-244A	7765 P	VENT A	4.3
		TANK 93	7.3
		PERMIT TOTAL	11.6
B-244B-1	8372 P	VENT A	32.2
		TANK 292	8.1
		PERMIT TOTAL	40.3
B-244E-2	999696 P	VENT J	0.1
B-254-1	7428 P	VENT A	152.4
B-267TF-2	8132 P	TANK 3012	2.3
		TANK 3021	0.4
		TANK 3061	0.1
		PERMIT TOTAL	3.8
B-267Y-1	6956 P	VENTS B,C,D	0.9
B-267Y-5	7435 P	TANK VENT	0.1
B-267Y-6	7322 P	VENT 1B	0.3
		VENT 2B	0.3
		PERMIT TOTAL	0.6
B-273TF-1	8365 P	TANK YF-6	0.2
		ACETONE TOTAL	3838.0

TABLE C-4

DIETHYL ETHER EMISSIONS

BUILDING	PERMIT	SOURCE	EMISSION
B-10-10	7449 P	VENT 3C	0.1
		VENT 3K	56.5
		PERMIT TOTAL	56.6
		TOTAL DIETHYL ETHER	56.6

TABLE C-5

DIMETHYL EHTER EMISSIONS

BUILDING	PERMIT	SOURCE	EMISSION
B-237A-1	8361 P	VENT K	1,830.0
		TOTAL DIMETHYL ETHER	1,830.0

TABLE C-6

ETHYLENE EMISSIONS

BUILDING	PERMIT	SOURCE	EMISSION
B-6C-27&28	7561 P	VENT A	1.1
B-7R-3	7828 P	VENT J	114.0
		VENT K	46.0
		VENT L	4.0
		VENT R	1.2
		VENT S	2.0
		VENT T	2.0
		VENT U	1.9
		VENT V	3.5
		VENT W	1.9
		VENT Y	4.8
		VENT Z	0.5
		PERMIT TOTAL	181.8
B-244-1	8143 P	JET POT	0.9
B-246-2	8337 P	VENT A	0.8
		TOTAL ETHYLENE	184.6

TABLE C-7

ETHYLENE GLYCOL EMISSIONS

BUILDING	PERMIT	SOURCE	EMISSION
B-5R-2	5946 P	VENT A	4.3
B-255-1	7530 P	VENTS 1C & 1D	4.4
		VENT 2D	0.9
		VENTS 5A-5G	3.4
		PERMIT TOTAL	8.7
B-267Y-8	999689 P	VENT A	0.8
B-270-1	999902 P	VENTS 1C & 1O	2.1
		VENTS 1E & 1N	28.0
		VENT 1J	2.2
		VENTS 1L & 1M	5.3
		VENTS 2A-2T	0.2
		PERMIT TOTAL	37.8
B-270-2	999758 P	VENT 1B	5.0
B-271TF-1	8456 P	TANKS 83-3 & 83-4	0.1
		TANK 83-6	0.1
		PERMIT TOTAL	0.2
		TOTAL ETHYLENE GLYCOL	56.8

TABLE C-8

METHANOL EMISSIONS

BUILDING	PERMIT	SOURCE	EMISSION
B-3-1	7760 P	VENT B	0.1
		VENT C	0.1
		PERMIT TOTAL	0.2
B-3TF-1	8435 P	TANK 19	0.1
B-10-4	7443 P	VENT A	6.0
		VENT B	4.5
		VENT C	0.1
		VENT D	0.1
		PERMIT TOTAL	10.7
B-57B-1	7412 P	VENT A	0.2
		VENT D	0.3
		PERMIT TOTAL	0.5
B-220-1	6327 P	STORAGE TANK	26.7
		HOLD TANK	47.2
		PERMIT TOTAL	73.9
B-221-2	8383 P	LET DOWN TANK	8.4
B-221A-1	8385 P	LET DOWN TANK	8.4
B-221B-1	8384 P	LET DOWN TANK	8.4
B-226P-1	6799 P	VENTS 1H-1K	0.3
		VENT 1L	0.6
		VENT 1M	0.1
		VENT 1N	1.1
		VENT 2A	2.1
		VENT 2B	0.9
		VENT 4A-4R	128.0
		PERMIT TOTAL	133.1
B-236TF-1	6325 P	TANK HB-01	2.6
		TANK HC-01 & HD-01	0.2
		TANK HC-01	2.2
		TANK HH-01	6.4
		TANK HL-01	9.1
		PERMIT TOTAL	20.5

BUILDING	PERMIT	SOURCE	EMISSION
B-237A-1	8361 P	VENT D	1.8
		VENT J	39.5
		VENT K	127.0
		PERMIT TOTAL	168.3
B-244-2	8363 P	JET POT	7.4
B-246-2	8337 P	VENT H	0.1
		VENTS I,J,K, M,N,O	1.0
		VENTS P,A,R	0.2
		PERMIT TOTAL	1.3
B-255-1	7530 P	VENTS 1A & 1B	35.0
		VENT 2C	4.4
		PERMIT TOTAL	39.4
B-261-1	8362 P	VENT C	1.8
		VENT L	41.2
		PERMIT TOTAL	43.0
B-261A-1	6440 P	VENT F	79.0
B-262-1	7827 P	TANKS AA-01 through AE-01	5.8
B-265B-2	7429 P	VENT D	4.3
		VENT E	0.3
		VENTS G,H,I	0.1
		PERMIT TOTAL	4.7
B-267TF-2	8132 P	TANK 3009	1.5
		TANKS 3052 & 3053	0.5
		PERMIT TOTAL	2.0
B-267Y-1	6956 P	VENTS B,C,D	0.9
B-267Y-5	7435 P	TANK VENT	0.1
B-267Y-6	7322 P	VENT 1B	0.2
		VENT 2B	0.2
		PERMIT TOTAL	0.4

BUILDING	PERMIT	SOURCE	EMISSION
B-270-1	999902 P	VENTS 1A,11B	28.0
		VENTS 4A through 4D, 4I & 4J	79.9
		VENTS 4E through 4H, 4K & 4L	0.2
		PERMIT TOTAL	108.0
T-10-1	8119 P	TANK 19	0.4
		TANK 20	0.4
		PERMIT TOTAL	0.8
T-21-2	8096 P	TANK 43	1.4
T220-TF-1	8394 P	TANKS CH-100, CH-101, XH-50, XH-51, UH-50, WH-50, ZH-50	6.6
		TOTAL METHANOL	733.3

TABLE C-9

METHYL ACETATE EMISSIONS

BUILDING	PERMIT	SOURCE	EMISSION
B-99-3	6615 P	VENT A	0.1
		VENT B	1.8
		PERMIT TOTAL	1.9
B-232-1	7777 P	VENTS A&B	91.0
		VENT C	252.0
		VENTS D&E	82.0
		VENT F	27.0
		VENT G	9.0
		VENT H	9.0
		VENT I	4.6
		VENT K	0.8
		VENT L	21.0
		VENT U	272.0
		VENT V	5.0
		VENT W	4.0
		VENT Z	8.0
		VENT AA	0.1
		VENT AC	17.3
		PERMIT TOTAL	802.8
B-237A-1	8361 P	VENT K	452.0
B-262-1	7827 P	VENTS H,I,J	34.6
		TOTAL METHYL ACETATE	1291.3

TABLE C-10

METHYL BENZOATE EMISSIONS

BUILDING	PERMIT	SOURCE	EMISSION
B-261A-1	6440 P	VENT E	56.0
		TOTAL METHYL BENZOATE	56.0

TABLE C-11

PROPANE EMISSIONS

BUILDING	PERMIT	SOURCE	EMISSION
B-6C-27&28	7561 P	VENT A	0.6
B-7R-3	7828 P	VENT J	67.0
		VENT K	27.0
		VENT L	3.0
		VENT R	11.0
		VENT S	18.7
		VENT T	18.7
		VENT U	18.7
		VENT V	33.5
		VENT W	18.7
		VENT Y	45.6
		VENT Z	4.4
		PERMIT TOTAL	266.3
B-244-1	8143 P	JET POT	2.1
		TOTAL PROPANE	269.0

TABLE C-12

PROPIONALDEHYDE EMISSIONS

BUILDING	PERMIT	SOURCE	EMISSION
B-99A-2	7763 P	VENT A	305.7
B-200TF	6331 P	TANK 40-75	15.1
		TANK 40-74	15.1
		PERMIT TOTAL	30.2
		TOTAL PROPIONALDEHYDE	335.9

TABLE C-13

P-XYLENE EMISSIONS

BUILDING	PERMIT	SOURCE	EMISSION
B-232-1	7777 P	VENT C	32.0
		VENTS D&E	5.0
		VENT F	5.0
		VENT G	2.0
		VENT H	2.0
		VENT I	0.2
		VENT U	47.0
		VENT W	2.0
		VENT Z	4.0
		VENT AA	0.4
		TANK 03	0.5
		PERMIT TOTAL	100.1
		TOTAL P-XYLENE	100.1